

Application No.: 10/036,577  
Filed: 12/31/2001

Examiner: Lerner, M.  
Art Unit: 2654

**Amendments to the Claims**

The following listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims**

- 1        1 (Currently Amended). A speech recognition system, comprising:
  - 2              at least one recognizer to produce output signals from audio input signals; and
  - 3              signals based at least in part on speech models and grammar files;
  - 4              a feedback module to generate feedback data; data; and
  - 5              a controller adaptable to modify the speech models and the grammar files based
  - 6              on the feedback data to improve the performance of the at least one recognizer.
  
- 1
  
- 1        2 (Currently Amended). The speech recognition system of claim 1, wherein ~~the speech recognition system further comprises a controller~~ the controller is operable to coordinate production of the output signals.
  
- 1
  
- 1        3 (Currently Amended). The speech recognition system of ~~claim 2~~ claim 1, wherein the controller is adaptable to provide the feedback data to the recognizer wherein the recognizer is operable to receive the feedback data.
  
- 1
  
- 1        4 (Cancelled).
  
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1        5 (Currently Amended). The speech recognition system of claim 2 claim 1,  
2        wherein the controller is adaptable to store the feedback data in a storage.

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1        6 (Cancelled).

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1        7 (Original). The speech recognition system of claim 1, wherein at least one  
2        recognizer further comprises multiple recognizers and a predictor to select a best  
3        performing recognizer from the multiple recognizers based upon the feedback data.

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1        8 (Original). The speech recognition system of claim 1, wherein the output  
2        signals correspond to one of the group comprised of: text, and command signals.

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1        9 (Original). The system of claim 1, where the feedback module is adapted to  
2        generate feedback data based on internal analysis of at least one of the group  
3        comprised of: grammar files, dialog progression, and output signals.

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1        10 (Currently Amended). The system of claim 1, wherein the feedback module is  
2        adapted to generate feedback data based on external inputs comprised of comprising at  
3        least one of the group comprised of: annotated grammar files and information received  
4        through an application programming interface.

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1        11 (Currently Amended). A speech recognition system, comprising:

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2 at least one speech recognizer to convert audio input signals to output signals,  
3 wherein the speech recognizer is adapted to receive feedback data and adjust  
4 operation by modifying speech models and grammar files based upon the feedback  
5 data.

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1 12 (Original). The speech recognition system of claim 11, wherein the system  
2 further comprises a controller operable to provide the feedback data to the recognizer.

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1 13 (Currently Amended). The speech recognition system of ~~claim 11~~ claim 12,  
2 wherein the controller is adaptable to provide the feedback data to the recognizer.

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1 14 (Original). The speech recognition system of claim 13, wherein the speech  
2 recognizer receives the feedback data in a manner of one of the group comprised of:  
3 real-time, and off-line.

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1 15 (Original). The speech recognition system of claim 11, wherein the speech  
2 recognition system further comprises a feedback module to collect feedback data.

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1 16 (Currently Amended). A method of generating speech recognition feedback  
2 data, the method comprising:

3 converting an audio input signal to an output signal;  
4 estimating a correctness measure wherein the correctness measure expresses if  
5 the output signal is a correct representation of the audio input signal; and

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6 forming a feedback data element wherein the element ~~consists of~~ comprises at  
7 least one of the audio input signal, the output signal, and the correctness measure.

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1 17 (Original). The method of claim 16, wherein the method further comprises  
2 storing the feedback data element.

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1 18 (Original). The method of claim 17, wherein storing the feedback data element  
2 further comprises storing one of the group comprised of: only those feedback data  
3 elements for which the correction measure indicates that the output signal was not  
4 correct and those feedback data elements for which the correction measure indicates  
5 that the output signal was correct.

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1 19 (Original). The method of claim 16, wherein the feedback data is filtered  
2 according to a criteria.

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1 20 (Original). The method of claim 16, wherein the method further comprises  
2 utilizing the feedback data element, wherein utilizing comprises at least one of the group  
3 comprised of: modifying a grammar file based on the feedback data, updating speech  
4 models based on the feedback data and updating a prediction mechanisms based on  
5 the feedback data.

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1        21 (Original). The method of claim 16, wherein the method further comprises  
2        providing the feedback data element to a speech recognition system in which the  
3        feedback data is being collected.

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1        22 (Original). The method of claim 16 wherein estimating a correctness measure  
2        further comprises at least one from a group comprised of: receiving information through  
3        an application programming interface, analyzing grammar files, analyzing the output  
4        signal and analysis of the progression of the dialog.

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1        23 (Original). The method of claim 16, wherein the method further comprises:  
2        assigning an identifier to the audio input signal; and  
3        including the identifier as part of the feedback data element.

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1        24 (Original). The method of claim 16, wherein the method further comprises:  
2        Identifying relevant contextual information; and  
3        Including the relevant contextual information as part of the feedback data  
4        element.

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1        25 (Currently Amended). An article including machine-readable code that, when  
2        executed, causes a machine to:  
3        convert an audio input signal to an output signal;  
4        estimate a correctness measure wherein the correctness measure expresses if  
5        the output signal is a correct representation of the audio input signal; and

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6       form a feedback data element wherein the element consists of comprises at  
7       least one of the audio input signal, the output signal, and the correctness measure.

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1       26 (Original). The article of claim 25, wherein the article contains further  
2       machine-readable code that, when executed, causes the machine to provide the  
3       feedback data element to a speech recognition system in which feedback data is being  
4       collected.

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1       27 (Currently Amended). The article of claim 25, wherein the code that, when  
2       executed, causes the machine to provide the feedback data element element and  
3       further causes the machine to utilize the feedback data element element, wherein  
4       utilizing the feedback data comprises at least one of the group comprising: modifying a  
5       grammar file based on the feedback data, updating speech models based on the  
6       feedback data and updating a prediction mechanisms based on the feedback data.

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1       28 (Original). The article of claim 25, wherein the article contains further  
2       machine-readable code that, when executed, causes the machine to store only those  
3       audio input signals for which the correction status indicates that a correction to the  
4       output signal was necessary.

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1       29 (Original). The article of claim 25, wherein the article contains further  
2       machine-readable code that, when executed, causes the machine to store only those

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- 3 audio input signals for which the correction status indicates that no correction to the
- 4 output signal was necessary.